

FAX Transmission Sheet

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Date: November 11, 2003

To: Examiner: John D. Lee
Art Unit: 2874

Fax No.: 703-872-9319

From: Stephen P. Burr

Subject: U.S. Application Ser. No. 09/871,067
Filed: May 31, 2001
Conf. No.: 1252
Title: A METHOD FOR FORMING A POLARIZATION-INVERTED

PORTION

Our Ref.: 782_166

You should receive 6 page(s) including this cover sheet. If you do not receive all pages, please call (315) 233-8300.

CERTIFICATION OF FACSIMILE TRANSMISSION

I hereby certify that the following paper(s) is/are being facsimile transmitted to 703-872-9319 at the Patent and Trademark Office on November 11, 2003:

- | | |
|-------------------------------|----------------|
| • Transmittal (in duplicate) | <u>2</u> pages |
| • Request for Reconsideration | <u>3</u> pages |
| • This Cover Sheet | <u>1</u> page |

Total Pages

6


Janet M. Stevens

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PATENT AMENDMENT TRANSMITTAL

(Provisions of 37 CFR 1.136 Apply)

Application Number	09/871,067	Filing Date	May 31, 2001
Group Art Unit	2874	Examiner Name	John D. Lee
Confirmation No.	1252	Attorney Docket No.	782_166
Inventor(s)	Shoichiro YAMAGUCHI, Tatsuo KAWAGUCHI and Takatoshi NEHAGI		
Invention:	A METHOD FOR FORMING A POLARIZATION-INVERTED PORTION		

Transmitted herewith is an Amendment in the above-identified application. The fee has been calculated as follows:

CLAIMS AS AMENDED

(1)	(2) Claims Remaining After Amendment	(3)	(4) Highest Number Previously Paid	(5) No. of Extra Claims Present	(6) Rate (Large Entity)	(7) Additional Fee
TOTAL CLAIMS	12	MINUS	20	0	\$18.00	\$00.00
INDEP. CLAIMS	1	MINUS	3	0	\$86.00	\$00.00
TOTAL ADDITIONAL FEE FOR THIS AMENDMENT						\$00.00

EXTENSION OF TERM

☒ Applicant believes that no extension of term is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition for extension of time.

☐ This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above-identified application. The requested extension and appropriate non-small entity fee are as follows:

- ☐ One Month (37 CFR 1.17(a)(1)) \$110.00
- ☐ Two Month (37 CFR 1.17(a)(2)) \$420.00
- ☐ Three Month (37 CFR 1.17(a)(3)) \$950.00

TOTAL FEES DUE

☐ Applicant claims small entity status. See 37 CFR 1.27. Therefore, the fee amount is reduced by one-half, and the resulting fee is:

FEE PAYMENT

- ☒ No additional fee is required.
- ☐ A check in the amount of \$_____ is enclosed.
- ☐ Charge Deposit Account 50-1446 in the amount of \$. Enclosed is a duplicate copy of this sheet.
- ☒ Please charge any fees which may be required, or credit any overpayment, to Deposit Account 50-1446.

Submitted By:

Name (Print Type)	Stephen P. Burr	Reg. No.	32,970	Customer No.	025191
		Telephone	(315) 233-8300	Facsimile	(315) 233-8320
Signature		Date	November 11, 2003		

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Janet M. Stevens
Janet M. Stevens

Practitioner's Docket No.: 782_166

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of: Shoichiro YAMAGUCHI, Tatsuo KAWAGUCHI and
Takatoshi NEHAGI

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Ser. No.: 09/871,067

Group Art Unit: 2874

NOV 12 2003

Filed: May 31, 2001

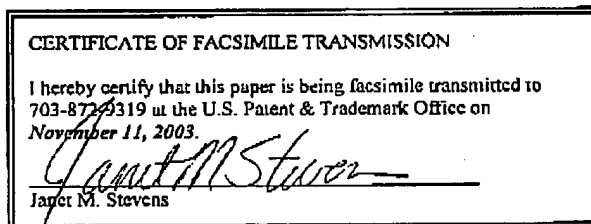
Examiner: John D. Lee

OFFICIAL

Confirmation No.: 1252

For: A METHOD FOR FORMING A POLARIZATION-INVERTED PORTION

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450



REQUEST FOR RECONSIDERATION

Sir:

The following remarks are in response to the Final Office Action mailed August 11,
2003. Claims 1-12 are pending herein.

Examiner Lee is thanked for courtesies extended to Applicants' representative (Steven
Caldwell) during a telephonic interview on November 5, 2003. The arguments discussed
during the interview are reiterated below. Examiner Lee acknowledged the validity of the
arguments, but requested that Applicants submit a written response to the Office Action for
his further consideration.

1. Claims 1-12 were rejected under §103(a) over Papuchon et al. This rejection is
respectfully traversed.

Pending independent claim 1 recites, among other things, that a first voltage is applied
between a pair of electrodes to generate and grow a first polarization-inverted portion in a

substrate. A second voltage is applied between the pair of electrodes to generate and grow a second polarization-inverted portion in a different area from that of the first polarization-inverted portion. Applicants respectfully submit that the applied prior art, discussed below, does not disclose or suggest growing a second polarization-inverted portion "in a different area from that of the first polarization-inverted portion," as recited in pending claim 1.

Papuchon's Figs. 4a - 4d illustrate a method of forming an optical device. The PTO's apparent position in the Office Action is that one would have found it obvious to use a set of electrodes to apply a first voltage to polarize the ferro-electric domain of waveguide 1 in a desired direction (e.g., direction (x) shown in Fig. 4c), and then to remove a portion of the electrodes and apply a second voltage to reverse the initial direction of polarization in regions I, III and V shown in Fig. 4d. The PTO is apparently arguing that the presently claimed invention would have been obvious in light of the PTO's modified version of Papuchon. Applicants respectfully disagree.

Papuchon forms a single polarization-inverted portion (i.e., waveguide 1) by thermally defusing niobium strip 4 into substrate 3 (illustrated in Figs. 4a and 4b). A voltage is applied between a set of electrodes to polarize the crystal orientation of optical waveguide 1 in a single direction (x). A second voltage is then applied between a set of electrodes to reverse the initial direction of polarization in certain regions of optical waveguide 1 (i.e., directions x' in regions I, III and V shown in Fig. 4d). As discussed above, pending independent claim 1 recites that a second voltage is applied between first and second electrodes to generate and grow a second polarization-inverted portion "in a different area from that of the first polarization-inverted portion . . .". Applicants respectfully submit that Papuchon's disclosure of a *single polarization-inverted portion* (optical waveguide 1) that includes regions having

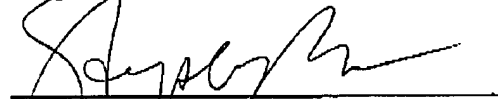
different directions of waveguide domain polarization does not teach or suggest that *a second polarization-inverted portion is generated and grown in a different area from that of the single polarization-inverted portion* (i.e., optical waveguide 1). Therefore, even if Papuchon were modified as discussed in the Office Action, there would still be no disclosure or suggestion in Papuchon of each and every element recited in pending claim 1.

In view of all of the foregoing, reconsideration and withdrawal of the §103(a) rejection over Papuchon et al. are respectfully requested.

If Examiner Lee believes that contact with Applicants' attorney would be advantageous toward the disposition of this case, he is herein requested to call Applicants' attorney at the phone number noted below.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-1446.

Respectfully submitted,



Stephen P. Burr
Reg. No. 32,970

November 11, 2003
Date

SPB:SWC:jms

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